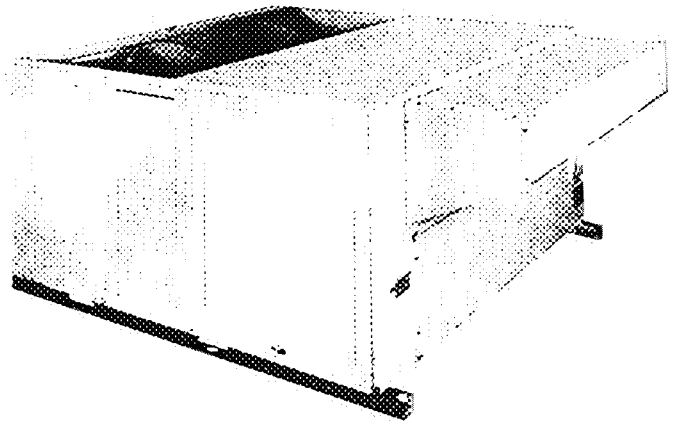
Bryant
Air Conditioning

Indianapolis, IN
City of Industry, CA

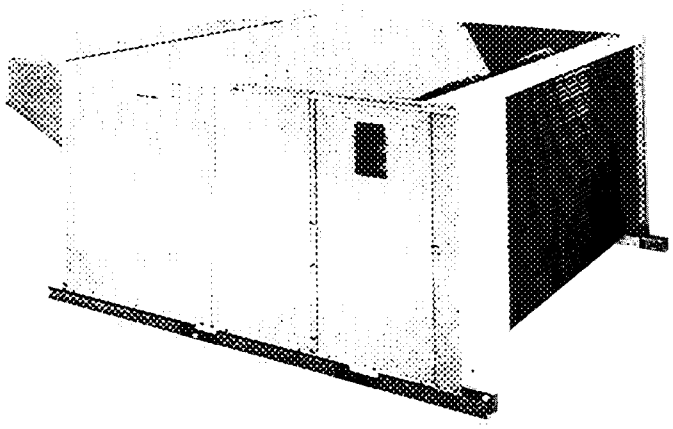
ELECTRIC COOLING ROOFTOP UNIT

Model 559D

Sizes 120, 150, & 180
Series A



Front View



Rear View

MODEL 559D120

Model 559D is a single-packaged cooling unit that fulfills the requirements of many commercial applications This unit has an EER rating of 8 3 that surpasses the efficiency requirements of the California Energy Commission

The 559D, with supply- and return-air openings on the bottom of the unit, is designed primarily for rooftop installation on a factory-supplied 14-inch or 24-inch high roof curb. The air ducts connect to the curb only, therefore, the curb and ductwork may be installed before the unit arrives at the jobsite

A 24-inch high, factory-supplied curb for side supply/return duct connections to an over-and-under duct configuration is also available for grade level or rooftop installation

SYSTEM FEATURES

FULL PERIMETER CURB MOUNTING ON PREFABRICATED ROOF CURB. The curb, which is easily field-assembled, can be installed at the jobsite before the unit is installed This eliminates a major leak source. An optional side supply/return roof curb for grade level installation is possible without costly modifications to the unit base

ECONOMIZER OPERATION uses an enthalpy control to select suitable air quality for "free" cooling operation by measuring the dry bulb/humidity mix

BAROMETRIC RELIEF-AIR PACKAGE exhausts stale indoor air during the economizer operation

TWO-POSITION DAMPER PACKAGE includes a spring-return motor that closes off the outdoor air during unit shutdown

LOW-AMBIENT operation for outdoor-air temperatures down to 35°F is standard A 0°F low-ambient kit is available as optional equipment

UNIT FEATURES

FACTORY-ASSEMBLED PACKAGE is a compact, fully self-contained cooling unit that is prewired, prepiped, and precharged for minimum installation time and expense

TWO HIGH-EFFICIENCY, HERMETIC COMPRESSORS on sizes 120 & 150 provide 2-stage cooling to conserve energy by shutting down one compressor during light cooling loads These compressors are electrically and mechanically independent, therefore, cooling is still available even if one stage fails.

A RUGGED, SERVICEABLE, SEMIHERMETIC COMPRESSOR with 33% capacity reduction is used on size 180. Part-load operation provides better humidity and temperature control of conditioned space

MANUAL OUTDOOR-AIR DAMPER, which is standard equipment, provides up to 25% outdoor air for ventilation

INTERNAL AND EXTERNAL PROTECTION against compressor overload and overheat conditions.

HIGH- AND LOW-PRESSURE PROTECTION against abnormal operating conditions in the refrigerant cycle

VERTICAL CONDENSER-AIR DISCHARGE prevents recirculation of hot condenser air and reduces the operating noise level

PROTECTION AS REQUIRED BY N.E.C. for fan motors

THERMAL- AND ACCOUSTIC-INSULATED air handling section

COMPRESSOR ISOLATION MOUNTING eliminates vibration (noise) transmission to the building structure.

CRANKCASE HEATERS AND FILTER-DRIERS are standard on both models

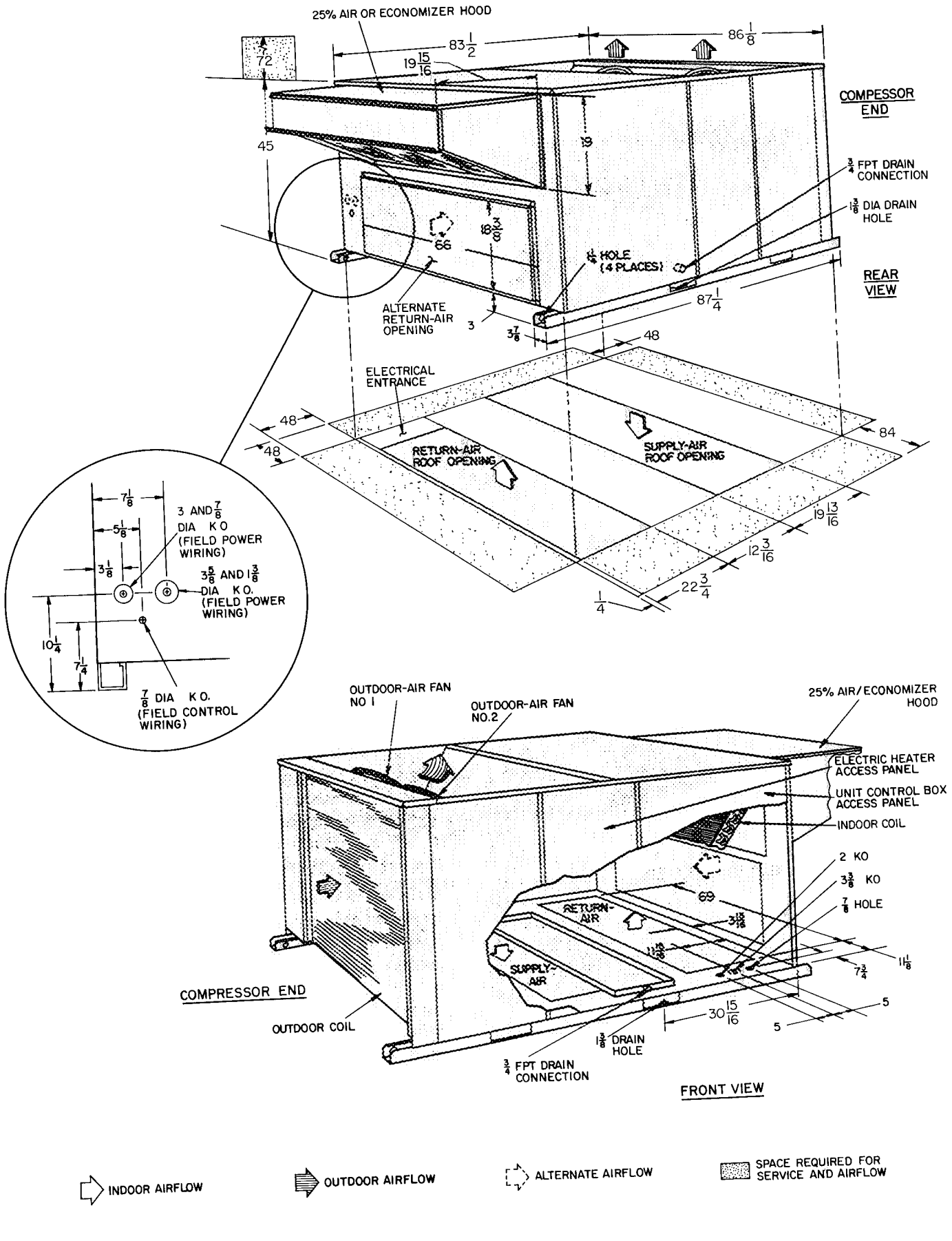
ADJUSTABLE BELT-DRIVE BLOWER AND OPTIONAL DRIVES meet most air delivery requirements

TWO-INCH FILTERS are standard.

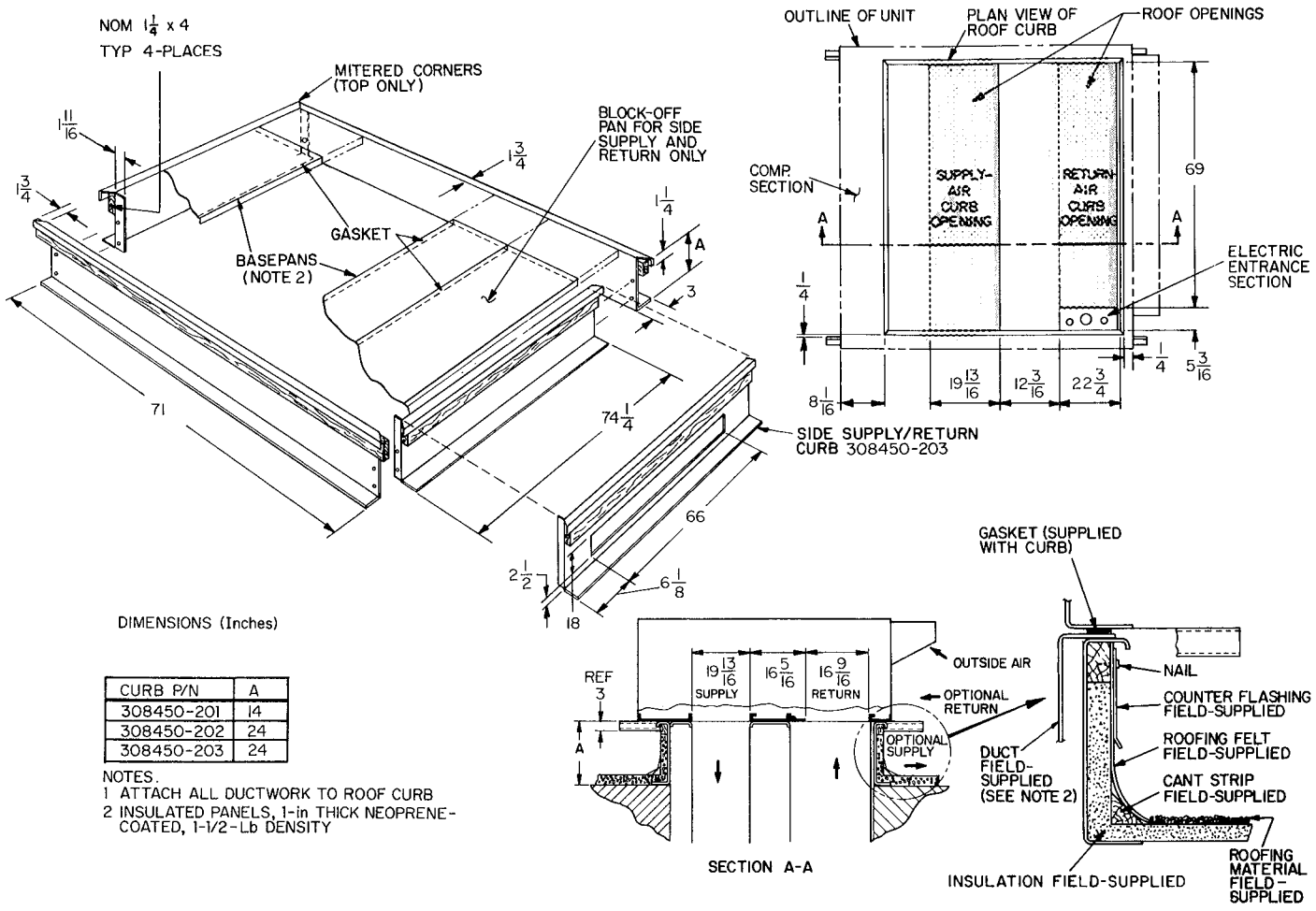
ELECTRIC HEATERS are available as optional equipment for operation on 208, 230, or 460 volts.

SINGLE-POINT POWER CONNECTION to units with field-installed electric heaters Only one power supply with one disconnect switch is required

WEATHERIZED CABINET of heavy-duty phosphated and zinc-coated steel Baked-on modified alkyd enamel finish is corrosion resistant and fade resistant. Interior surface of the evaporator compartment is insulated to help isolate the conditioned air from the outdoor ambient temperature.



DIMENSIONAL DRAWING



DIMENSIONS (Inches)

CURB P/N	A
308450-201	14
308450-202	24
308450-203	24

NOTES.
1 ATTACH ALL DUCTWORK TO ROOF CURB
2 INSULATED PANELS, 1-in THICK NEOPRENE-COATED, 1-1/2-Lb DENSITY

ROOF MOUNTING CURB DIMENSIONS

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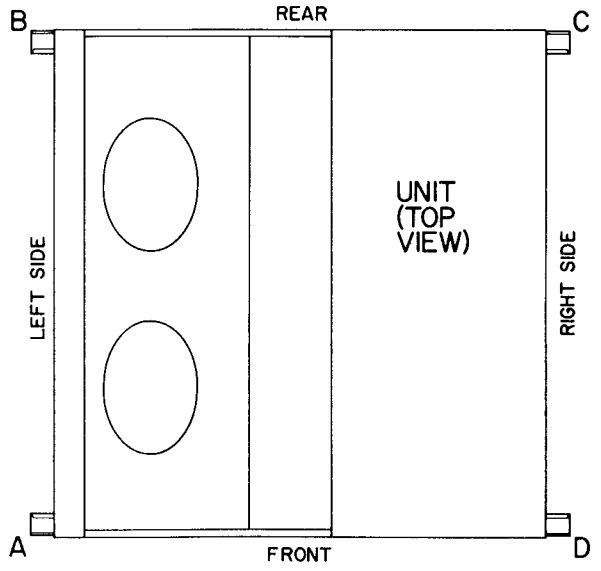
Size	Operating Weight*	Corner Weights			
		A	B	C	D
120	1210	264	424	322	200
150	1320	277	445	388	210
180	1450	317	508	385	240

*Add 150 lbs for unit with economizer



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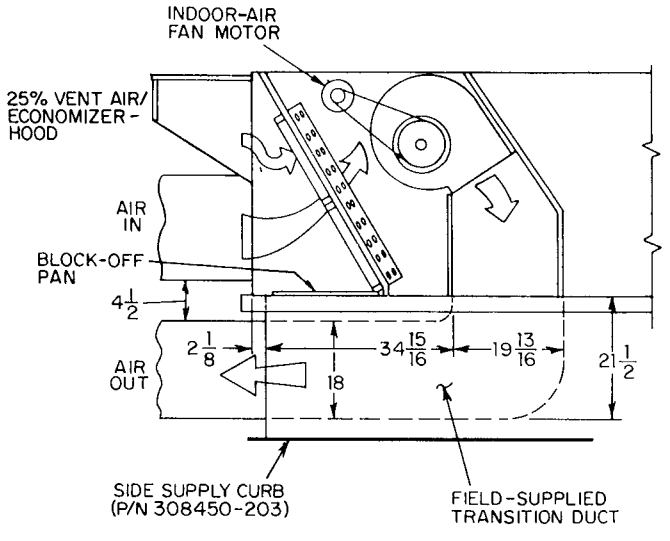
UNIT OPERATING AND CORNER WEIGHTS (lbs)



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SIDE SUPPLY-/RETURN-AIR DISTRIBUTION

RATINGS AND SPECIFICATIONS

MODEL	559DP120	559DE120	559DP150	559DE150	559DP180	559DE180
SERIES	A	A	A	A	A	A
RATINGS & PERFORMANCE						
Cooling						
Total Capacity (Btuh)	119,000*		148,000‡‡		178,000‡‡	
Capacity Reduction	50%		50%		33%	
Rated Airflow (Ft³/Min)	4000*		5000‡‡		6000‡‡	
Rated ESP (In. wc)	0.3*		0.35‡‡		0.35‡‡	
EER	8.2*		8.0‡‡		8.2‡‡	
ARI Sound Rating	8.4†		—		—	
ELECTRICAL						
Unit Volts—Phase (60-Hz)	208/230—3	460—3	208/230—3	460—3	208/230—3	460—3
Operating Voltage Range	187—253	414—506	187—253	414—506	187—253	414—506
Unit Full Load Amps	62.7	27.8	71.6	31.8	87.4	51.3
Min Circuit Amps	70	35	81	35	105	55
Min Wire Size (75°C Copper)‡	4 AWG	8 AWG	4 AWG	8 AWG	2 AWG	6 AWG
Max Wire Length (Ft)‡	148	300	130	263	161	253
Max Fuse Size (Amps)	80	35	90	40	125	60
Control Transformer, 24-V (VA)	48	48	48	48	48	48
COMPRESSORS, REFRIGERANT, & CONTROLS						
Compressor No. 1 (Type—RPM)	Hermetic—3500		Hermetic—3500		Semihermetic—1750	
Rated Load Amps	24	10.5	27	11.6	61.6	32.0
Locked Rotor Amps	136	49	137	69	266	120
Compressor No. 2 (Type—RPM)	Hermetic—3500		Hermetic—3500		—	
Rated Load Amps	24	10.5	27	11.6	—	—
Locked Rotor Amps	136	49	137	69	—	—
Compressor Protection	Internal Linebreak		Internal Linebreak		Internal Thermostat	
Low-Pressure Switch (PSIG)	Cutout 27, Reset 60		Cutout 27, Reset 60		Cutout 27, Reset 60	
High-Pressure Switch (PSIG)	Cutout 428, Reset 320		Cutout 428, Reset 320		Cutout 428, Reset 320	
Low-Ambient Operation (°F)	35		35		35	
Refrigerant Charge						
Compressor No. 1 Circuit	7 lbs 14 oz		8 lbs 6 oz		23 lbs 3 oz	
Compressor No. 2 Circuit	6 lbs 10 oz		8 lbs 6 oz		—	
INDOOR COIL						
Rows & Fins per Inch	2—14		3—15		3—14	
Coil Face Area (Sq Ft)	14.7		13.8		16.5	
Refrigerant Metering Device	Cap. Tube		Cap. Tube		Cap. Tube	
INDOOR BLOWER & MOTOR						
Wheel Dia & Width (In.)	(2) 10 x 10		(2) 10 x 10		(2) 10 x 10	
Blower Pulley Pitch Dia & Bore (In.)	5.5 & 1-3/16		6.0 x 1-3/16		6.4 x 1-3/16	
Factory-Supplied Air Filters (In)	(2) 16 x 20 x 2, (4) 16 x 25 x 2		(2) 16 x 20 x 2, (4) 16 x 25 x 2		(2) 20 x 20 x 2, (3) 16 x 20 x 2, (2) 16 x 25 x 2	
Blower Motor HP & SF	1-1/2 & 1.2	1-1/2 & 1.2	3 & 1.15	3 & 1.15	3 & 1.15	3 & 1.15
Speed (Nominal RPM)	1725	1725	1725	1725	1725	1725
Full Load Amps	5.5	2.6	8.4	4.2	10.4	4.7
Standard Motor Pulley Pitch Dia & Bore (In.)	2.8—3.8 & 7/8		3.4—4.4 & 7/8		4.3—5.3 & 7/8	
Optional Motor Pulley Pitch Dia & Bore (In.)**	2.4—3.4 & 7/8		2.8—3.8 & 7/8		3.4—4.4 & 7/8	
Belt Length & Width (In.)	41 x 1/2		43 x 1/2		45 x 1/2	
OUTDOOR COIL						
Rows & Fins per Inch	2—14		3—14		3—14	
Coil Face Area (Sq Ft)	18.9		18.9		18.9	
OUTDOOR FAN & MOTORS						
Outdoor Fans, No. & Dia (In.)	2—22	2—22	2—22	2—22	2-26	2—26
Motor HP	1/2	1/2	1/2	1/2	1	1
Type—Speed (RPM)	PSC—1075	PSC—1075	PSC—1075	PSC—1075	PSC—1075	PSC—1075
Full Load Amps	4.6 Each	2.1 Each	4.6 Each	2.3 Each	7.7 Each	3.3 Each
OPTIONAL EQUIPMENT						
Roof Mounting Curb (14-In.)	308450-201					
Roof Mounting Curb (24-In.)	308450-202					
Roof Mounting Curb (24-In.)††	308450-203					
Modulating Economizer	308451-201					
Barometric Relief-Air Package	308452-201					
Two-Position Damper Package	308453-201					
0° Low-Ambient Kit	308458-201				308458-202	
Electric Heat Packages	See "Optional Electric Heat Packages" table.					

*Rated in accordance with ARI Standard 210-81

†Rated in accordance with ARI Standard 270-84

‡If other than 75°C copper wire is used, determine size from unit ampacity and the National Electrical Code Voltage drop of wire must be less than 2% of unit rated voltage Wire length shown is for one way along wire path from unit to electrical service panel

**Field-supplied

††For side supply- and return-air duct connections.

‡‡Rated in accordance with ARI Standard 360-81

DETAILED NET COOLING CAPACITIES

Evaporator Air		CONDENSER AIR TEMPERATURE (°F)																			
		85					95					105					115				
Ft³ per Min	°F WB	Capacity MBtuh Total	Capacity MBtuh Sens	LDB	LWB	Total Sys KW	Capacity MBtuh Total	Capacity MBtuh Sens	LDB	LWB	Total Sys KW	Capacity MBtuh Total	Capacity MBtuh Sens	LDB	LWB	Total Sys KW	Capacity MBtuh Total	Capacity MBtuh Sens	LDB	LWB	Total Sys KW
MODEL 559D120																					
3000	71	132.0	67 0	59 4	57.8	13 7	124.0	64 2	60.3	58.6	14.3	117.0	61 2	61 2	59 5	14 9	109 0	58 3	62 1	60 3	15 5
	67	122 0	78.9	55 8	53 6	13 3	115 0	75 9	56 7	54 5	13 9	108 0	73 0	57 6	55 3	14 4	101 0	69.9	58 6	56 2	14 9
	63	113.0	90.3	52.3	49.5	12.8	106.0	87.3	53.2	50.4	13.4	99.7	84.3	54.1	51.3	13.8	93.0	81.2	55.1	52.1	14.3
3500	71	135 0	70 4	61 5	59 6	14 1	127 0	67 4	62.3	60 4	14.7	119 0	64.4	63 1	61 1	15 3	111 0	61 5	63 8	61 8	15 8
	67	125 0	83.8	57 9	55 4	13 6	118 0	80 8	58 7	56 2	14 2	110 0	77 8	59 5	56 9	14 7	103 0	74 7	60 4	57 7	15 2
	63	116.0	96.9	54.5	51.3	13.2	109.0	94.0	55.3	52.0	13.7	103.0	90.9	56.1	52.8	14.2	95.6	87.5	57.0	53.5	14.6
4000	71	137 0	73.5	63 1	61 0	14 4	129 0	70 5	63.8	61 7	15.0	121 0	67 5	64 5	62 3	15 6	113 0	64 4	65 2	63 0	16 2
	67	128 0	88 6	59 6	56 8	13 9	120 0	85 5	60.3	57.5	14 5	112 0	82 3	61 1	58 1	15 0	104 0	79 2	61 8	58 8	15 5
	63	118.0	103.0	56.2	52.7	13.5	112.0	100.0	57.0	53.3	14.0	105.0	96.6	57.8	54.0	14.5	97.4	93.0	58.6	54.6	15.0
4500	71	139 0	76 4	64 4	62.1	14 6	131.0	73 4	65 0	62 7	15.3	122 0	70 3	65.6	63 3	15 9	114 0	67 3	66 2	63 8	16 4
	67	130 0	93 1	60 9	57 9	14 2	122 0	89 9	61.6	58 5	14 8	114 0	86 8	62 3	59 1	15 3	105.0	83 6	62 9	59 7	15 8
	63	121.0	109.0	57.7	53.7	13.8	113.0	106.0	58.4	54.3	14.3	106.0	102.0	59.2	54.9	14.8	99.1	97.6	60.0	55.5	15.3
5000	71	141 0	79 2	65 4	63 0	14 9	132.0	76 2	66 0	63 5	15 6	123 0	73 1	66 5	64 0	16 2	115 0	70 1	67 1	64 6	16 7
	67	131 0	97 3	62.1	58.8	14 4	123.0	94 2	62 7	59.3	15 0	115 0	91 1	63.2	59 9	15 6	106 0	87 8	63 8	60 4	16 1
	63	122.0	114.0	58.9	54.6	14.0	115.0	110.0	59.7	55.1	14.6	108.0	106.0	60.4	55.7	15.1	101.0	101.0	61.5	56.2	15.7
MODEL 559D150																					
4000	71	166.0	87 1	60.1	58 7	17 7	157 0	83.6	60 9	59.5	18 5	147 0	79 9	61.7	60 3	19 3	137 0	76 3	62 5	61 1	20 1
	67	154 0	105 0	56.0	54.5	17 1	145 0	101.0	56 9	55.3	17 8	136 0	97 2	57 8	56 1	18 6	127 0	93 4	58 6	56 9	19 3
	63	143.0	122.0	52.1	50.3	16.5	135.0	118.0	53.0	51.1	17.2	127.0	114.0	53.9	51.9	17.9	118.0	110.0	54.9	52.8	18.6
4500	71	169 0	90 9	61.5	60 1	18 1	159.0	87 2	62 3	60.8	18 9	149 0	83.6	63 0	61 5	19 7	138 0	79 9	63 8	62 2	20 5
	67	157 0	110 0	57 6	55 8	17 5	147 0	107.0	58 3	56 6	18 2	138 0	103 0	59 1	57 3	19 0	128.0	98 9	59 9	58 1	19 7
	63	146.0	129.0	53.7	51.6	16.9	137.0	125.0	54.6	52.3	17.6	129.0	121.0	55.4	53.1	18.3	120.0	116.0	56.3	53.8	19.0
5000	71	170.0	94 4	62.7	61 1	18 5	160.0	90 7	63 4	61 8	19 3	150 0	87.0	64 1	62 4	20 1	139 0	83 4	64 7	63 1	20 8
	67	159 0	116 0	58.8	56 9	17 8	149 0	112.0	59 5	57 6	18 6	139 0	108 0	60 2	58 3	19 4	129.0	104 0	60 9	58 9	20 0
	63	148.0	136.0	55.1	52.7	17.2	140.0	132.0	55.9	53.4	18.0	131.0	127.0	56.7	54.0	18.7	122.0	122.0	57.8	54.7	19.2
5500	71	172 0	97.8	63 7	62 1	18 8	161 0	94 1	64.3	62 6	19 6	151 0	90 4	64 9	63 2	20 4	140 0	86 8	65 6	63.8	21 2
	67	160 0	121 0	59.9	57.8	18 2	150 0	117 0	60 5	58.4	18 9	140 0	113.0	61 2	59 1	19 7	130 0	109 0	61 8	59 7	20 4
	63	150.0	142.0	56.3	53.6	17.6	141.0	138.0	57.1	54.2	18.4	132.0	132.0	58.0	54.8	19.1	124.0	124.0	59.3	55.3	19.9
6000	71	173 0	101 0	64.6	62 8	19 1	162.0	97 5	65 1	63 4	20.0	151 0	93 7	65 7	63 9	20 7	140 0	90 0	66 3	64 5	21 5
	67	161 0	126 0	60 8	58 6	18 5	151 0	122 0	61 4	59 2	19 3	141 0	118 0	62.0	59 7	20 0	131 0	114 0	62 6	60 3	20 7
	63	152.0	148.0	57.4	54.3	18.0	143.0	142.0	58.3	54.9	18.7	135.0	135.0	59.5	55.4	19.6	127.0	127.0	60.7	55.9	20.3
MODEL 559D180																					
5000	71	200.0	106 0	61 1	59 5	20 5	190 0	102 0	61 8	60 2	21 6	179 0	97.8	62 5	60.8	22 7	169 0	93 9	63 2	61.5	23 8
	67	186 0	128 0	57 2	55 2	19 9	177 0	124 0	57 9	55 9	21 0	167 0	120 0	58 6	56 6	22 0	157.0	116 0	59 3	57.3	23 0
	63	174.0	149.0	53.3	51.0	19.4	165.0	145.0	54.0	51.7	20.4	156.0	141.0	54.8	52.4	21.4	147.0	137.0	55.5	53.0	22.3
5500	71	202 0	109 0	62 3	60.6	20 8	192 0	105 0	62 9	61 2	22 0	181 0	101 0	63 5	61.5	23 1	170 0	97 3	64 2	62 4	24 1
	67	188 0	133 0	58 4	56 3	20 3	179 0	129 0	59.0	56 9	21 3	168 0	125 0	59 6	57 5	22 4	158 0	121 0	60 3	58 2	23 4
	63	176.0	156.0	54.6	52.1	19.8	167.0	152.0	55.3	52.7	20.8	157.0	148.0	56.0	53.3	21.8	148.0	143.0	56.7	53.9	22.7
6000	71	204 0	112 0	63 3	61.4	21 2	193.0	108 0	63 8	62 0	22 3	182.0	105 0	64 4	62 5	23 4	171 0	101 0	65 0	63 1	24 5
	67	190.0	138 0	59 4	57 2	20 6	180 0	134 0	60 0	57.8	21 7	170.0	130 0	60 6	58.3	22 7	159 0	126 0	61 2	58 9	23 7
	63	178.00	163.0	55.7	53.0	20.1	168.0	159.0	56.4	53.5	21.2	159.0	154.0	57.1	54.1	22.2	150.0	148.0	57.9	54.6	23.1
6500	71	205 0	116 0	64 1	62 2	21 5	194.0	112.0	64 6	62 7	22.7	183 0	108 0	65 2	63 2	23 8	171 0	104.0	65 7	63 7	24 9
	67	191.0	143 0	60 3	58.0	20 9	181 0	139 0	60 8	58 5	22 0	170.0	135.0	61 4	59 0	23 1	160 0	131 0	62 0	59 6	24.1
	63	179.0	169.0	56.7	53.7	20.5	170.0	164.0	57.4	54.2	21.5	161.0	159.0	58.1	54.7	22.5	152.0	152.0	59.1	55.2	23.6
7000	71	206 0	119 0	64.8	62 8	21 8	195 0	115.0	65.4	63 3	23.0	183 0	111 0	65 8	63 8	24.1	172 0	107 0	66 3	64 3	25 2
	67	192 0	148 0	61 0	58 6	21 3	182 0	144 0	61 6	59 1	22 4	171.0	140 0	62 1	59 6	23 4	160 0	136 0	62 6	60.1	24 4
	63	180.0	175.0	57.7	54.4	20.8	171.0	169.0	58.4	54.8	21.8	163.0	163.0	59.1	55.3	22.9	154.0	154.0	60.3	55.7	24.0

NOTES:

1 Sensible heat capacities shown are based on 80°F entering air at the indoor coil

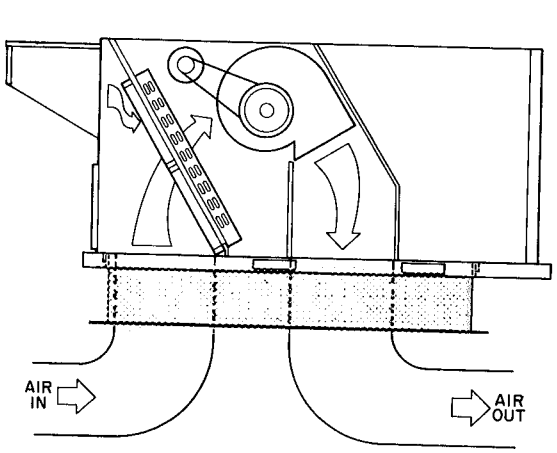
2 Direct interpolation is permissible Do not extrapolate

3 To interpolate

(a) **below 80°F DB,** subtract 825 Btuh per 1000 Ft³/Min for each degree below 80°F from the listed sensible capacity

(b) **above 80°F DB,** add 825 Btuh per 1000 Ft³/Min for each degree above 80°F to the listed sensible capacity

AIR DISTRIBUTION— THRU-THE-BOTTOM



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MODEL 559D AIR DELIVERY AT INDICATED E.S.P. (In. wc)—WITH WET COIL AND STANDARD AIR FILTERS

Airflow (Ft³/Min)	0.2		0.4		0.6		0.8		1.0		1.2		1.4	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	MODELS 559DP120 & 559DE120													
	1.5-HP Motor, 1.2 Service Factor, 1.8 Max BHP, 878-1191 RPM Standard Drive Range													
3000	630	0.39	733	0.51	826*	0.64	910	0.78	988	0.92	1062	1.08	1135	1.26
3200	659	0.45	753*	0.58	846*	0.72	929	0.86	1004	1.01	1076	1.17	1145	1.34
3400	689	0.53	779*	0.66	868*	0.80	948	0.95	1022	1.11	1091	1.27	1158	1.44
3600	719	0.61	804*	0.75	890	0.90	967	1.05	1041	1.22	1108	1.38	1173	1.56
3800	750	0.70	830*	0.85	912	1.00	988	1.16	1060	1.33	1126	1.50	1189	1.68
4000	782*	0.80	857*	0.96	935	1.12	1010	1.28	1079	1.46	1146	1.64	1207	1.82
4200	814*	0.91	885	1.07	959	1.24	1032	1.41	1100	1.59	1165	1.78	1226	1.97
4400	846*	1.03	914	1.20	984	1.37	1054	1.56	1122	1.74	1184	1.93	1245	2.13
4600	879	1.16	943	1.39	1010	1.52	1077	1.71	1143	1.90	1205	2.09	1264	2.30
4800	912	1.30	973	1.48	1036	1.67	1101	1.87	1165	2.07	1227	2.27	1284	2.47
5000	945	1.45	1003	1.64	1064	1.84	1126	2.04	1188	2.25	1248	2.46	1305	2.67
Airflow (Ft³/Min)	MODELS 559DP150 & 559DE150													
	3-HP Motor, 1.15 Service Factor, 3.45 Max BHP, 978-1265 RPM Standard Drive Range													
3750	732	0.77	848†	0.94	949†	1.10	1041	1.26	1124	1.43	1194	1.61	1247	1.80
4000	764	0.90	876†	1.09	974†	1.25	1065	1.42	1146	1.59	1221	1.77	1284	1.97
4250	797	1.05	904†	1.24	1001	1.42	1089	1.59	1170	1.78	1244	1.96	1312	2.15
4500	831†	1.21	934†	1.41	1028	1.61	1113	1.78	1193	1.97	1267	2.16	1335	2.36
4750	865†	1.38	965†	1.60	1056	1.81	1139	1.99	1217	2.19	1290	2.39	1358	2.59
5000	900†	1.58	996	1.80	1084	2.03	1166	2.23	1241	2.42	1314	2.63	1381	2.84
5250	935†	1.79	1028	2.02	1112	2.26	1193	2.48	1266	2.67	1338	2.89	1405	3.11
5500	971†	2.02	1060	2.26	1142	2.51	1221	2.74	1294	2.96	1362	3.16	1429	3.39
5750	1007	2.27	1093	2.52	1173	2.78	1249	3.02	1321	3.26	1387	3.47	1452	3.69
6000	1044	2.54	1126	2.80	1205	3.06	1277	3.32	1349	3.57	1414	3.80	1476	4.02
6250	1080	2.83	1159	3.10	1236	3.37	1307	3.64	1377	3.91	1441	4.15	1502	4.38
Airflow (Ft³/Min)	MODELS 559DP180 & 559DE180													
	3-HP Motor, 1.15 Service Factor, 3.45 Max BHP, 1158-1428 RPM Standard Drive Range													
4500	790	1.02	879	1.23	960‡	1.43	1039‡	1.64	1114‡	1.85	1189	2.09	1264	2.36
4800	830	1.21	915	1.43	993‡	1.64	1068‡	1.86	1140‡	2.09	1210	2.32	1280	2.58
5100	870	1.42	953‡	1.65	1028‡	1.88	1099‡	2.11	1168	2.35	1235	2.59	1301	2.85
5400	911	1.66	991‡	1.90	1063‡	2.15	1131‡	2.39	1197	2.64	1262	2.89	1325	3.15
5700	952‡	1.92	1030‡	2.18	1099‡	2.44	1165	2.69	1128	2.95	1290	3.22	1351	3.48
6000	994‡	2.21	1069‡	2.48	1136‡	2.76	1200	3.03	1260	3.29	1320	3.57	1379	3.85
6300	1035‡	2.53	1109‡	2.82	1174	3.10	1235	3.39	1294	3.67	1351	3.95	1408	4.24
6600	1078‡	2.88	1148‡	3.18	1213	3.48	1271	3.78	1329	4.07	1384	4.37	1438	4.67
6900	1120‡	3.26	1188	3.58	1251	3.89	1309	4.20	1364	4.51	1417	4.82	1470	5.13
7200	1163	3.68	1229	4.01	1290	4.33	1347	4.66	1400	4.98	1452	5.31	—	—
7500	1205	4.13	1270	4.47	1329	4.81	1385	5.15	1437	5.49	—	—	—	—

E S P = External Static Pressure RPM = Blower fan revolutions per minute. BHP = Brake horsepower

NOTES: 1 Shaded portions of table are beyond standard or optional drive range, or motor horsepower at rated voltage

2 See "Motor Pulley Settings" table for pulley setting to obtain required blower fan RPM for desired airflow

* Use optional field-supplied motor pulley, Browning P/N IVL-40-7/8 or equivalent Optional drive range is 753—1066 RPM

† Use optional field-supplied motor pulley, Browning P/N IVL44-7/8 or equivalent Optional drive range is 805—1092 RPM

‡ Use optional field-supplied motor pulley, Browning P/N IVM50-7/8 or equivalent Optional drive range is 916—1186 RPM.

MOTOR PULLEY SETTINGS FOR STANDARD AND OPTIONAL MOTOR PULLEYS

Motor Pulley Turns Open	559D120		559D150		559D180	
	Standard	Optional*	Standard	Optional†	Standard	Optional‡
0	1191	1066	1265	1092	1428	1186
1/2	1160	1038	1236	1064	1401	1159
1	1129	1003	1208	1035	1375	1132
1-1/2	1097	972	1179	1006	1348	1105
2	1066	940	1150	978	1321	1078
2-1/2	1035	909	1121	949	1294	1051
3	1003	878	1092	920	1268	1024
3-1/2	972	847	1064	891	1240	997
4	941	815	1035	862	1213	970
4-1/2	909	784	1006	834	1186	943
5	878	753	978	805	1158	916

*Field-supplied pulley Use Browning P/N 1VL40-7/8 or equivalent

†Field-supplied pulley Use Browning P/N 1VL44-7/8 or equivalent

‡Field-supplied pulley Use Browning P/N 1VM50-7/8 or equivalent

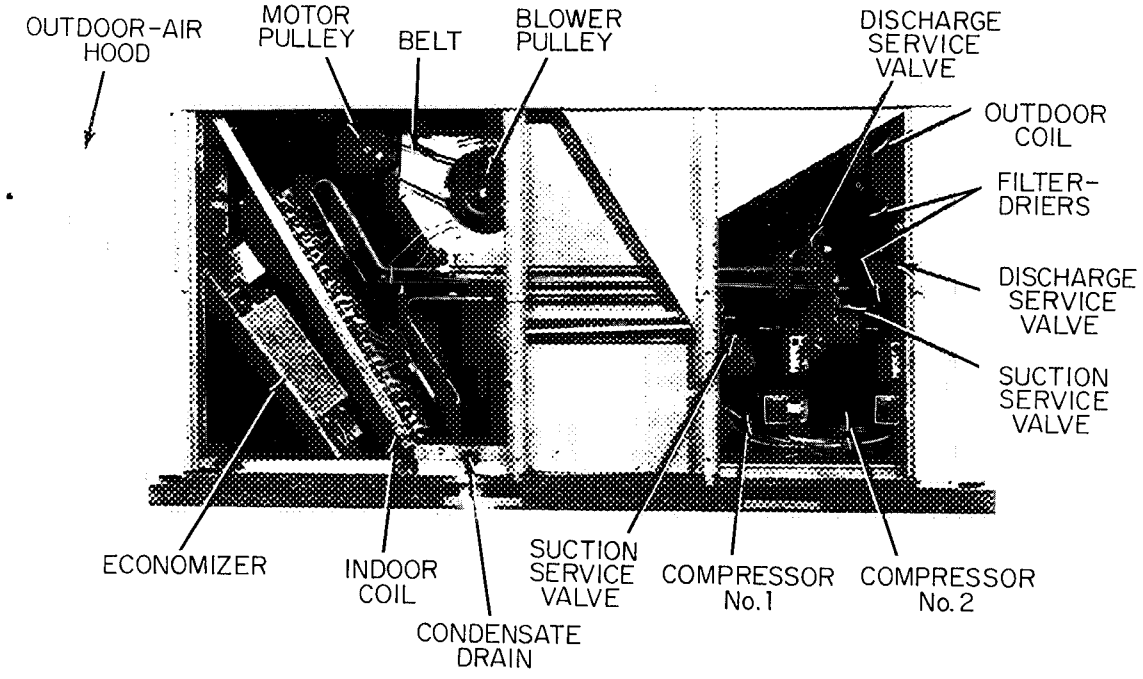
OPTIONAL ELECTRIC HEAT PACKAGES

Used With Model	Unit Volts—Phase (60-Hz)	Heater Package* P/N	Heater KW	Heater FLA	Unit FLA	Min Wire Size‡	Max Wire Length (Ft)	Min Circuit Amps	Max Overcurrent Protection (Amps)
559DP120	208/230—3	308455-201	14/17	39/47	62.7	4	148	70/70	80
		308455-202	26/31	72/82	77.5/87.5	3/2	151/178	100/110	100
		308455-203†	42/52	117/135	122.5/140.5	00/000	236/282	155/180	150
559DP120	208—3	308455-204†	56	156	161.5	0000	275	205	175
559DE120	460—3	308455-205	16	21	27.8	8	99	35	35
		308455-206	30	39	41.6	6	311	55	50
		308455-207	51	66	68.6	3	378	90	80
559DP150	208/230—3	308455-201	14/17	39/47	71.6	4	130	81	90
		308455-202	26/31	72/82	80.4/90.4	2/1	175/228	104/116	110
		308455-203†	42/52	117/135	125.4/143.4	00/000	231/276	160/182	150/175
559DP150	208—3	308455-204†	56	156	164.4	0000	271	209	175
559DE150	460—3	308455-205	16	21	31.8	8	263	35	40
		308455-206	30	39	43.2	6	300	55	50
		308455-207	51	66	70.2	3	369	90	80
559DP180	208/230—3	308455-202	26/31	72/82	87.4/92.4	2/1	179/223	105/120	125
		308455-203†	42/52	117/135	127.4/145.4	00/000	227/316	165/185	150/175
		308455-204†	56/69	156/180	166.4/190.4	0000/250MCM	267/291	210/240	200/225
559DE180	460—3	308455-206	30	39	51.3	6	253	55	60
		308455-207	51	66	70.7	3	366	90	90
		308455-208	73	96	100.7	1	409	130	125

*Electric heaters are UL-listed only for single-point connection of motor and electric heat circuits Minimum circuit amps and maximum overcurrent protection appear on unit rating plate

†Requires auxiliary electric heat box P/N 50PQ400804 and connector P/N HW71QA051 provided with heater package

‡Wire sizes and lengths are based on 75°C copper wire unless specified otherwise If other than specified wire is used, determine size from minimum circuit amps and the National Electrical Code Voltage drop of wire must be less than 2% of unit rated voltage Wire length shown is for one way along the wire path from unit to electrical service panel



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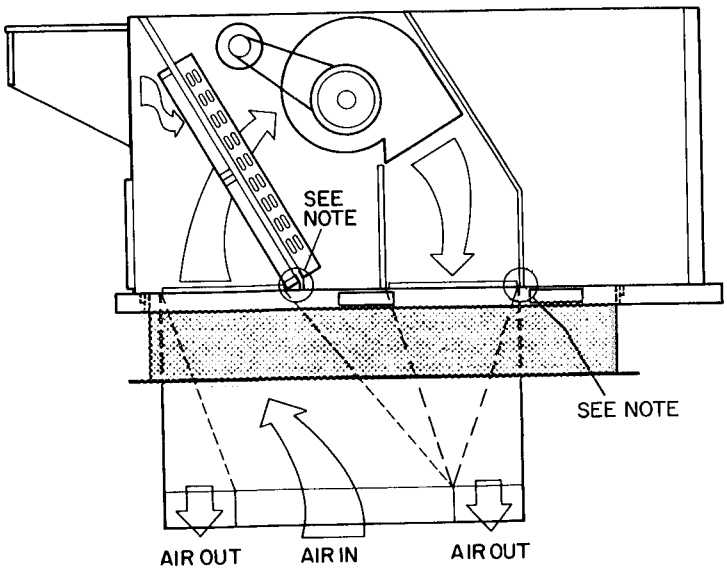
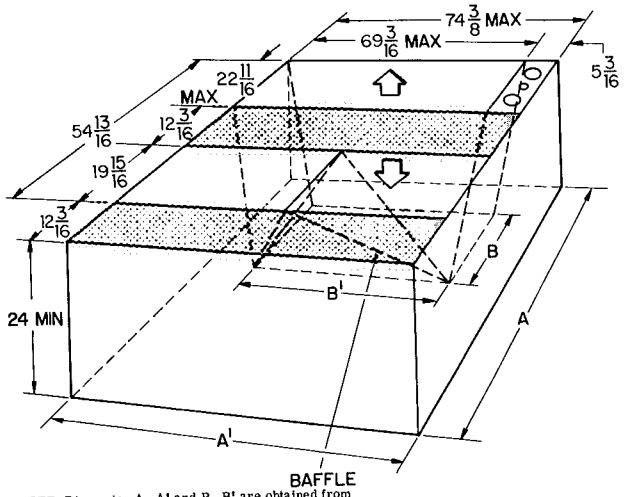
MODEL 559D120—REAR VIEW (ACCESS PANELS REMOVED)



NOTE: Do not drill in this area; damage to basepan may result in water leak.

A84061



NOTE: Dimension A, A' and B, B' are obtained from field-supplied ceiling diffuser

Shaded area indicates block-off panels

A84030

CONCENTRIC DUCT DETAILS (FIELD-SUPPLIED)

ENGINEER'S SPECIFICATION GUIDE

GENERAL. Furnish and install a self-contained electric cooling Model 559D mounted on a full perimeter, factory-supplied curb with supply- and return-air ducts connected within, and, to the curb. Holes shall be provided in unit baserails for rigging and lifting operations. Units shall be shipped fully charged with oil and R-22 refrigerant.

COOLING CAPACITY· Total net cooling capacity of the unit shall be _____ Btuh or greater, and sensible capacity shall be _____Btuh or greater at conditions of _____Ft³/Min evaporator air entering unit at _____ °F dry bulb, _____ °F wet bulb and condenser entering air of _____ °F dry bulb. Total power consumption shall not exceed _____KWH. The EER at design conditions shall be a minimum of _____Btuh/watt The unit shall be capable of cooling operation down to 35°F. Two-stage cooling shall be provided.

CABINET. The cabinet shall be constructed of heavy-gauge, zinc-coated, galvanized steel with Malibu Beige baked enamel finish

COMPRESSORS. Both compressors shall be of the welded, fully hermetic type with crankcase heaters and suitable vibration isolators. A separate refrigerant circuit shall be provided for each compressor.

The 180-size unit shall be equipped with a rugged, serviceable, semihermetic compressor with 33% capacity reduction.

An automatic resetting circuit, shall be supplied to prevent rapid compressor cycling

CONDENSER SECTION: The condenser coil shall be constructed of aluminum plate fins mechanically bonded to seamless copper tubes. The condenser fans shall be direct-driven propeller type and mounted for vertical air discharge

EVAPORATOR SECTION: The evaporator coil shall be constructed of aluminum plate fins mechanically bonded to seamless copper tubes. The evaporator fan shall be of the forward-curved centrifugal type, belt-driven. Adjustment of airflow shall be accomplished by means of an adjustable pitch pulley

CONTROL CIRCUIT: The unit control panel shall be prewired in the unit casing—furnished with a 24-V control transformer, low-pressure switches, compressor, condenser, and evaporator fan motor contactors, as well as other protective devices.

ADDITIONAL EQUIPMENT A full roof curb shall be provided Curb design shall provide for connection of ductwork to the curb before unit placement.

A manual outside-air damper complete with inlet-air screens shall be furnished for field attachment.

An economizer control shall be factory-assembled and installed in the unit. The economizer control shall maintain a fixed supply-air temperature during the "free" cooling operation by providing for full modulation of the operable outside- and return-air dampers. The package shall be complete with necessary dampers, linkage, and spring-return modulating damper motor. The economizer controls shall include an enthalpy control capable of controlling the dampers by measuring the heat content and humidity of the outside air.

APPROVALS: The unit shall be UL listed as an electric cooling rooftop unit. All wiring shall be in accordance with N.E.C Size 120 unit shall be rated in accordance with ARI Standards 210-81 and 270-84. Sizes 150 & 180 shall be rated in accordance with ARI Standard 360-81.

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SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

UNIT MUST BE INSTALLED IN ACCORDANCE WITH INSTALLATION INSTRUCTIONS

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